

Notice of Allowability

Application No.

10/686,376

Examiner

Carol S Tsai

Applicant(s)

HILDEBRANT, ANDREW STEVEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/14/2003.
2. ☒ The allowed claim(s) is/are 1-24.
3. ☒ The drawings filed on 14 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 10/14/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-24 are allowed.
2. The following is an examiner's statement of reasons for allowance:

U. S. Publication 2003/0033099 to Sherlock in view of U. S. Patent No. 5,052,024 to Moran, III et al. are references closest to the claimed invention. Sherlock in combination with Moran, III et al. disclose a method, comprising: for each of at least two waveforms in the list, calculating a number of test sample points lost by masking the waveform with a particular parent waveform in a child-parent waveform map; the number of lost test sample points being determined by i) a difference in the number of test sample points in the waveform and the number of test sample points in the particular parent waveform; and in response to said calculations, implementing a waveform masking that results in fewer lost test sample points than another waveform masking. However, Sherlock in combination with Moran, III et al. do not teach receiving a list of waveforms that is to be driven to or received from a pin of a device under test; each waveform being associated with a weight; and the number of lost test sample points being determined by ii) the weight associated with the waveform; and including all of the other limitations in the respective independent claims.

U. S. Publication 2003/0033099 to Sherlock in view of U. S. Patent No. 5,052,024 to Moran, III et al. are references closest to the claimed invention. Sherlock in combination with Moran, III et al. disclose a circuit tester, comprising: program code to, for each of at least two waveforms in the list, calculating a number of test sample points lost by masking the waveform

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with a particular parent waveform in a child-parent waveform map; the number of lost test sample points being determined by i) a difference in the number of test sample points in the waveform and the number of test sample points in the particular parent waveform; and program code to, in response to said calculations, implementing a waveform masking that results in fewer lost test sample points than another waveform masking. However, Sherlock in combination with Moran, III et al. do not teach a plurality of driving probes and receiving probes; a plurality of waveform memories; means to associate said waveform memories with ones of said probes; an interface to receive a list of waveforms that is to be driven to or received from a pin of a device under test; each waveform being associated with a weight; the number of lost test sample points being determined by ii) the weight associated with the waveform; and program code to, after one or more waveform maskings have been implemented in one or more of the lists of waveforms, program ones of the waveform memories with waveforms remaining in the lists; and including all of the other limitations in the respective independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hildebrant discloses a method for testing performance of a device-under-test (DUT) including: examining vectors, each of the vectors including a plurality of characters; and creating waveform entries, each of the waveform entries corresponding to a distinct vector configuration encountered among the vectors examined.

Whannel et al. disclose simultaneously increasing the effective frequency of scanning operations and increasing memory capacity can be achieved by multiplexing multiple state data into each tester memory location.

Decome et al. disclose an automated test system that has analog and digital resources for testing mixed signal ICs.

Larson et al. disclose an ATE calibration method and system that does not require external test equipment to calibrate individual functional pins and provides balanced timing skews among the functional pins and pincards.

Breger discloses a driver for applying a deterministic waveform along a lossy transmission path to a device-under-test.

Takano discloses a circuit arrangement of a memory testing apparatus provided with a mask pattern memory is simplified.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. W. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S.

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Hoff can be reached on (571) 272-2216. The fax number for TC 2800 is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (571) 272-1585 or (571) 272-2800.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.



Carol S. W. Tsai
Patent Examiner
Art Unit 2857

01/10/05